

# Work Order ID 72922

Thursday, August 18, 2011 10:07:07 AM

Page 1

Item ID: D3196-3

Accept

Setup Start

Revision ID:

Stop

Item Name: Bar

Start Date: 8/18/2011 Start Qty: 4.00

Cust Item ID:

Required Date: 8/25/2011 Req'd Qty: 4.00

Customer:

Reference:

Approvals:

Process Plan:

Date: 8/18/11

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D3196	Rev C
-------	-------

100

0.00



BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blank: (0.75" x 1.50") x 34.750" long Bar

110

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine D3196-3 as per Folio FA339 and Dwg D3196 Identify as D3196-312-Deburr

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 72922

Thursday, August 18, 2011 10:07:08 AM



Page 2

Item ID: D3196-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Bar

Start Date: 8/18/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 8/25/2011 Req'd Qty: 4.00



Customer:

Reference:

Run Start



Approvals: Process Plan: Date:

Tooling: Date:

Stop



QC: Date:

SPC (Y/N): Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

QC8- Inspect parts - second check

0.00

*amk 11/09/07*



QC

Memo

0.00

Quality Control

*8 15*

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

*8X of m-11/09/07*

150

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:

*7:15*  
*3200F*

OVEN TEMPERATURE:

*7:45*

*8X of m-11/09/08*

*M 117338*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 72922

Thursday, August 18, 2011 10:07:08 AM



Page 3

Item ID: D3196-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Bar

Start Date: 8/18/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 8/25/2011 Req'd Qty: 4.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

QC3- Insp Part Finish

0.00



QC

Memo

0.00

Quality Control

8 of 11 11/09/08

170

Identify as per dwg & Stock Location: ST 260

0.00



Packaging

Memo

0.00

Packaging

Sp 11-09-08

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/9/08

ME 11-09-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, August 18, 2011 10:07:14 AM

Page 1

Work Order ID: 72922



Parent Item: D3196-3



Parent Item Name: Bar

Start Date: 8/18/2011

Required Date: 8/25/2011

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev: A New Issue 05-11-08 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.750X01.50 0		Purchased	No			100	f	63.5746	2.89	12.16842			



6061-T6 Bar .750 X 1.50

Location

Loc Qty

Loc Code

MAT003

63.5746

116405

0.4492

116604

1.5

116623

1.6254

118182

60

24.4 on 8/18/02

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	72922
<b>Description:</b> Bar		<b>Part Number:</b>	D3196-3
<b>Inspection Dwg:</b> D3196	<b>Rev:</b> C	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
34.625	+/-0.010	34.625	✓		mitope	
33.650	+/-0.005	33.650	✓			
0.488	+/-0.005	.488	✓		vern JL-3	
17.011	+/-0.010	17.011	✓		mitope	
0.512	+/-0.005	.511	✓		vern JL-3	
1.500	+/-0.010	1.501	✓			
0.464	+/-0.010	.464	✓			
0.504	+/-0.010	.504	✓			
Ø0.344	+0.006/-0.001	.344	✓			
Ø0.660 x 100°	+0.008/-0.001 x 0.5°	.660x100°	✓			
0.962	+/-0.005	.962	✓			
0.750	+/-0.010	.750	✓			
4.750	+/-0.010	4.749	✓			
12.531	+/-0.010	12.531	✓			
16.999	+/-0.010	16.999	✓			
21.844	+/-0.010	21.844	✓			
29.625	+/-0.010	29.625	✓			
0.250	+/-0.010	.251	✓			
1.000	+/-0.010	1.000	✓			
R0.125	+/-0.010	.125	✓			
0.987	+/-0.010	.987	✓			
0.060 x 45°	+/-0.010 x 0.5°	.06x45°	✓			

<b>Measured by:</b>	SL	<b>Audited by:</b>	mf	<b>Prototype Approval:</b>	N/A
<b>Date:</b>	11/09/06	<b>Date:</b>	11/09/07	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue	KJ/RF	
B	06.10.24	Dwg Rev. updated	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM	

# DART

RELEASED

06.10.31

DEO ATTACHED

DESIGN	DRAWN BY	DART AEROSPACE LTD	REV. C
06.10.31	03.06.25	NEW ISSUE	
06.09.25	ADD D3196-5		
06.10.31	ADD SLOTS ON -1; REMOVED -5		
DATE	TITLE	BAR	SCALE
06.10.31	BAR		1:4
CHECKED	APPROVED	DRAWING NO.	SHEET 1 OF 3
06.10.31	06.10.31	D3196	

HAMKESBURT, ONTARIO, CANADA

DART AEROSPACE LTD

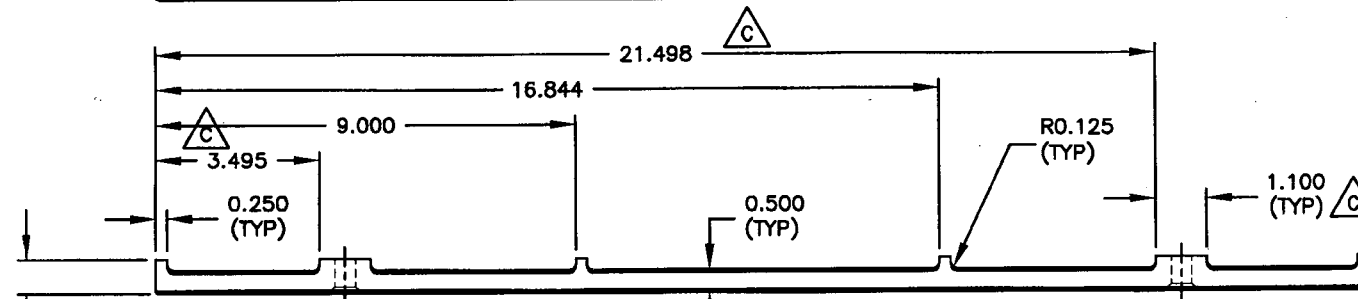
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 27922

11-08-18

CHAMFER 0.060x45°  
(TYP 6 PLACES)

ENGRAVE P/N CENTERED  
ON PART USING  
0.15 HIGH x 0.005 DEEP  
LETTERING

R0.125  
(TYP)



0.750

ENGRAVE DART LOGO, CENTERED  
ON PART USING 0.65 HIGH x 0.005  
DEEP LETTERING

0.444 SLOT  
(2 PLACES)

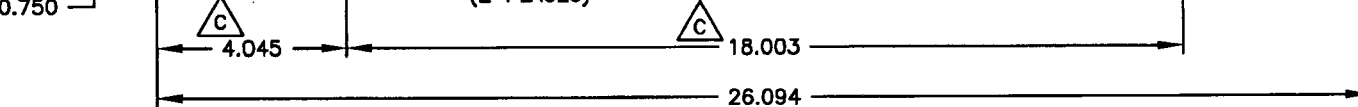


1.500

Ø0.344  
C'SINK Ø0.660x100°  
(2 PLACES)

CHAMFER 0.060x45°  
(TYP AROUND TOP SURFACE)

0.750



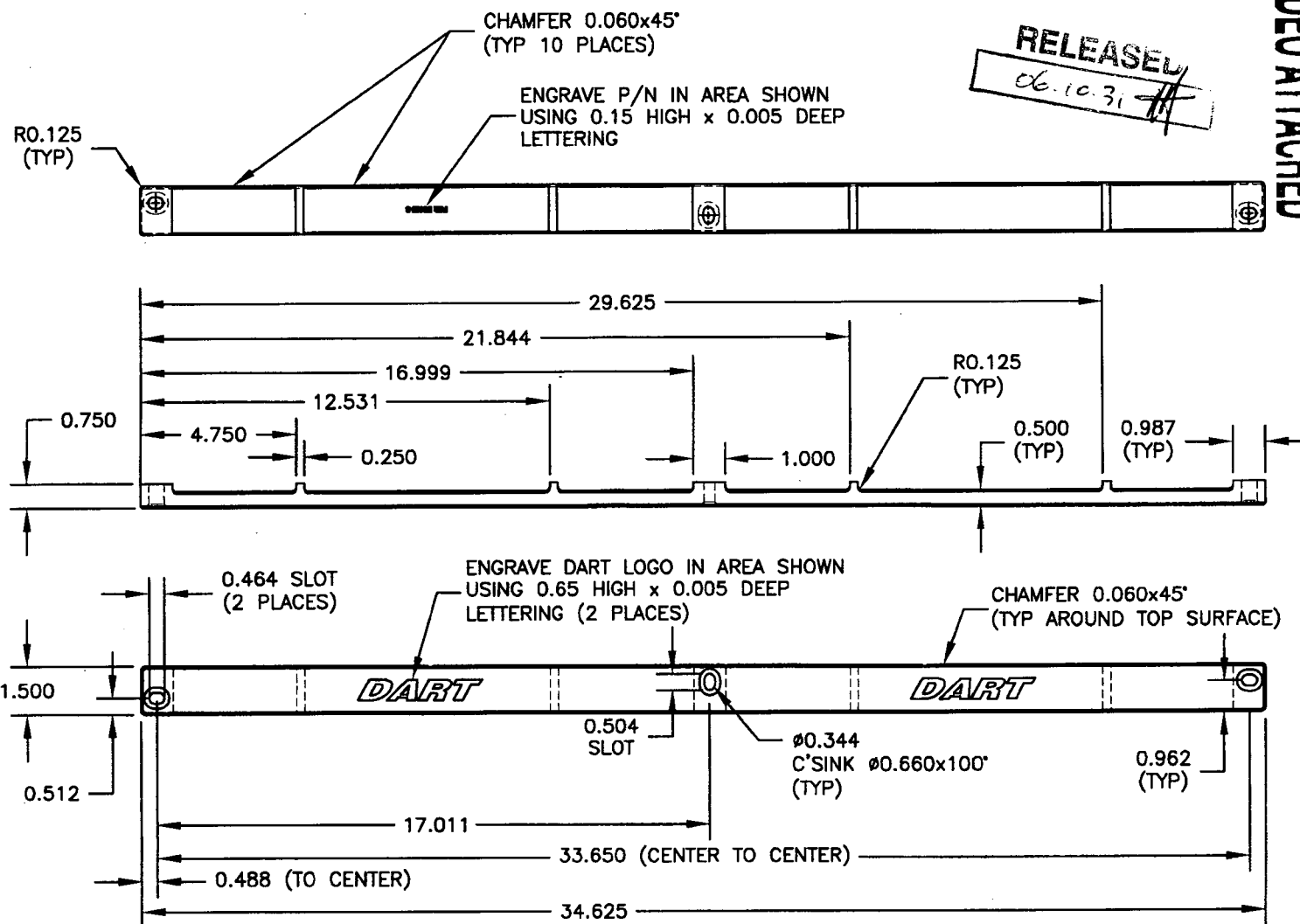
## D3196-1 BAR

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8)  
(REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT, GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES



DEO ATTACHED

RELEASED  
06.10.31



**D3196-3 BAR**

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8) (REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

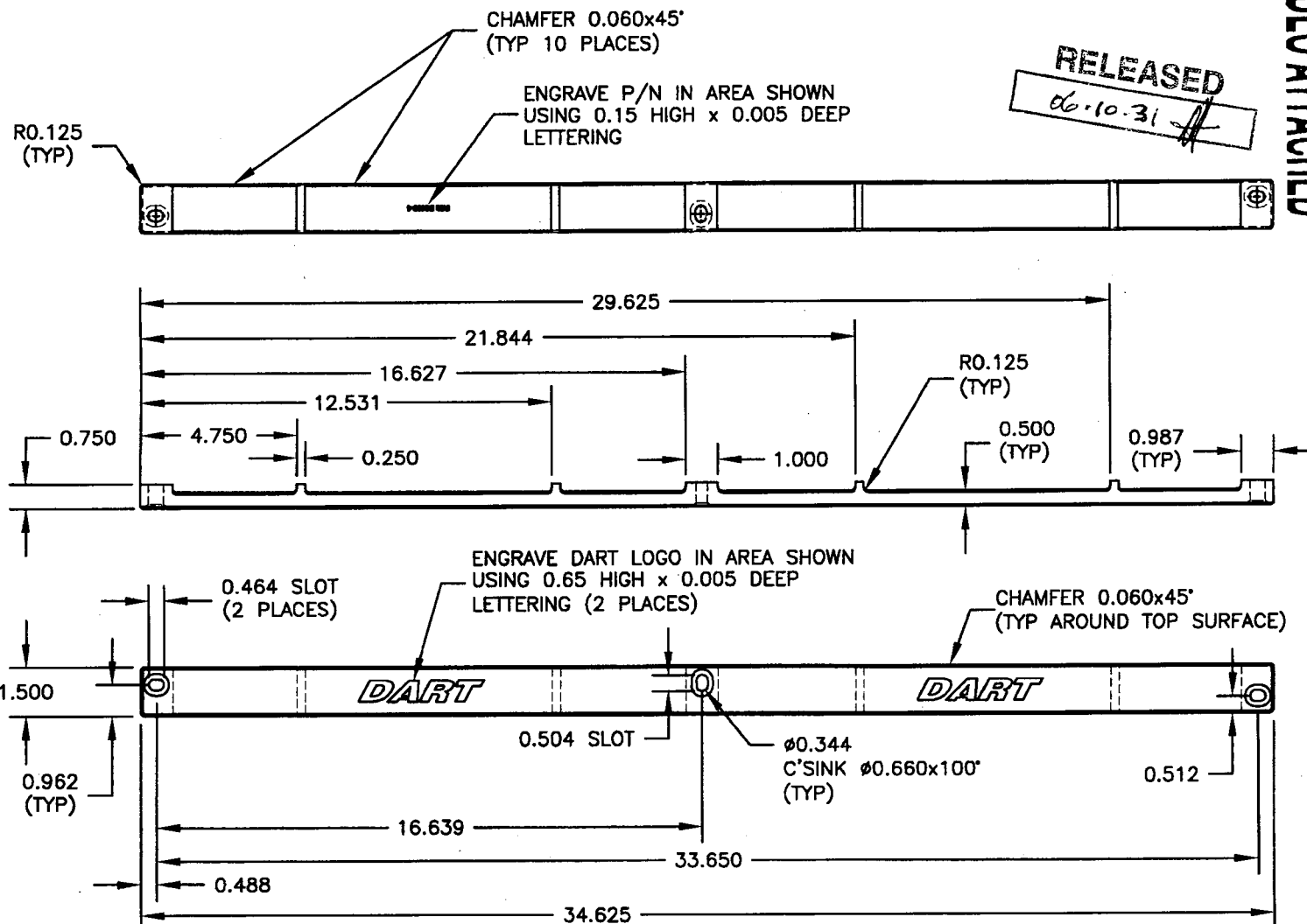
12922

DESIGN	QD	DRAWN BY	DART AEROSPACE LTD
CHECKED	PH	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	06.10.31	DRAWING NO.	D3196
TITLE	BAR	SHEET 2 OF 3	REV. C
SCALE	1:5		

# DART

DEO ATTACHED

RELEASED  
06-10-31



## D3196-4 BAR

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8) (REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

72922

DESIGN	QC	DRAWN BY	DART AEROSPACE LTD
CHECKED	PH	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	06.10.31	DRAWING NO.	D3196
TITLE	BAR	SHEET	3 OF 3
SCALE	1:5	REV. C	

DRAWING NO. D3196	TITLE BAR	REV. C	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D3196-C-1	SHEET NO. SHEET 1 OF 2	SCALE NTS
DRAWN <i>ASS</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 08.08.27	DATE 08.08.28	DATE 08.08.29	DATE 08.08.29	DATE 08.08.29	DATE 08.09.04	

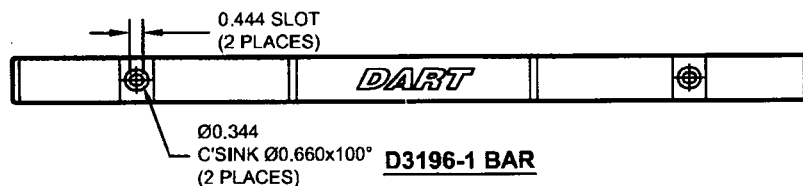
SHEET 1 MODIFY SLOT DIMENSIONING ON D3196-1 AS SHOWN:

IS:



D3196-1 BAR

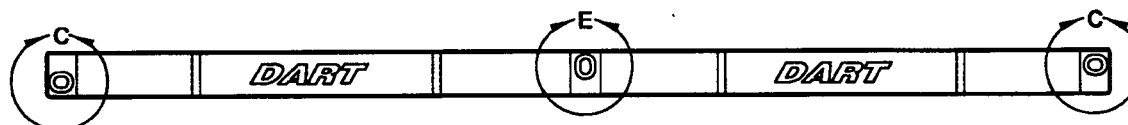
WAS:



D3196-1 BAR

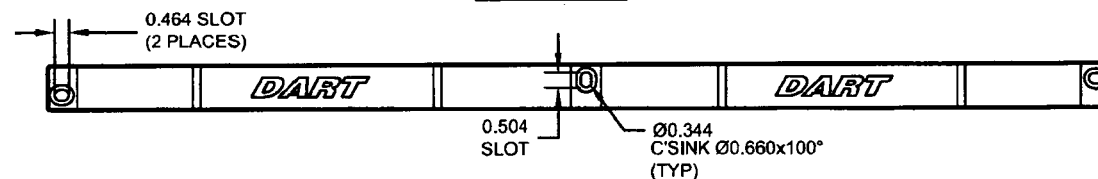
SHEET 2 MODIFY SLOT DIMENSIONING ON D3196-3 AS SHOWN:

IS:



D3196-3 BAR

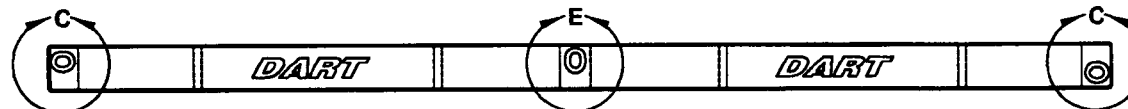
WAS:



D3196-3 BAR

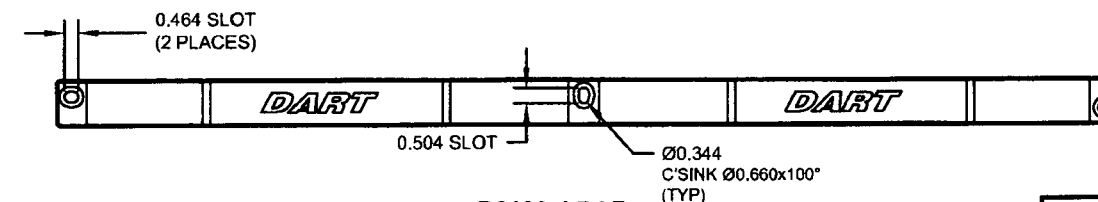
SHEET 3 MODIFY SLOT DIMENSIONING ON D3196-4 AS SHOWN:

IS:



D3196-4 BAR

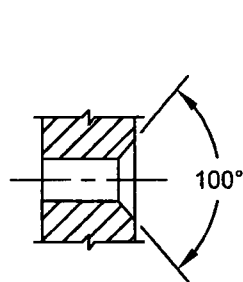
WAS:



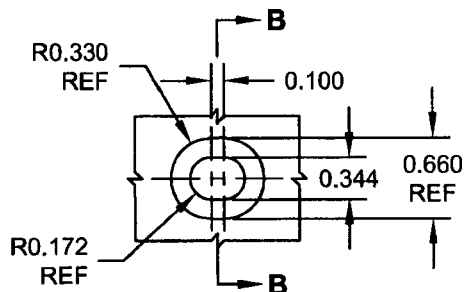
D3196-4 BAR

*172922*

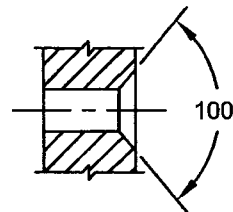
DRAWING NO. D3196	TITLE BAR	REV. C	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D3196-C-1	SHEET NO. SHEET 2 OF 2	SCALE NTS
DRAWN <i>ASS</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 08.08.27	DATE 08.08.28	DATE 08.08.29	DATE 08.08.29	DATE 08.08.29	DATE 08.09.04	



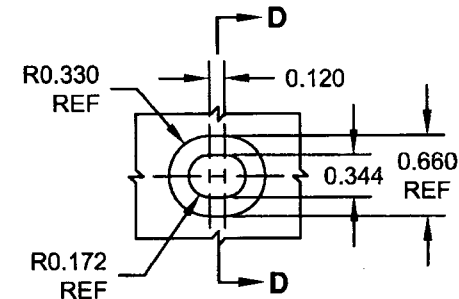
**SECTION B-B**



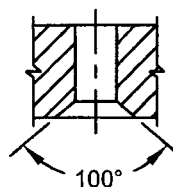
**DETAIL A**



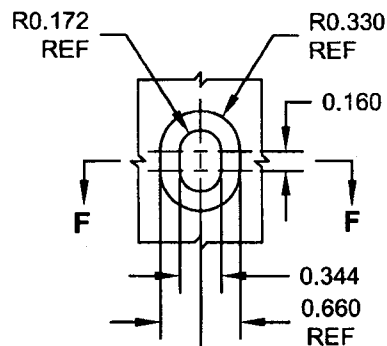
**SECTION D-D**



**DETAIL C**



**SECTION F-F**



**DETAIL E**

*72722*

NOTE: THIS CHANGE HAS BEEN DONE TO CLARIFY SLOT DIMENSIONS ONLY. NO CHANGES HAVE BEEN MADE TO THE PARTS  
SEE NCR 08-051 FOR FURTHER INFORMATION  
ALL OTHER INFORMATION REMAINS UNCHANGED

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